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Attorney Docket No. A0059Q-US-NP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Robert M. Coleman

Application No.: 10/024,727

Filed: December 21, 2001

For: PRINTING SYSTEM

Group Art Unit: 2624

Examiner: Vincent M. Rudolph

Confirmation No.: 5915

Mail Stop: Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

LETTER

Enclosed herewith is an original Appellant's Brief on Appeal in the above-identified application. An oral hearing is not requested.

Please charge the fee for filing of the Appeal Brief to Xerox Corporation, Deposit Account No. 24-0025.

Respectfully submitted.

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Customer No.: 25453

Rev 09/2005

PATENT APPLICATION

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BRIEF ON APPEAL

Appeal from Group 2624

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Xerox Corporation, by way of an Assignment recorded on December 21, 2001, in the U.S. Patent and Trademark Office at Reel 12400, Frame 205-206.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-13 are on appeal.

Claims 1-13 are pending.

Claims 1-13 are rejected.

IV. STATUS OF AMENDMENTS

No Amendment After Final Rejection has been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of Claim 1 is directed to printing system 200 for printing a document having at least one page described in a page description language, comprising: a printer 10, a page description language decomposer 50 for converting the document data into at least one image object; and a user interface 60 having a first option for associating printer-independent print-quality characteristics with a selected image object to be printed by said printer (see patent application [hereinafter "pa"] page 20, lines 21-26 and Fig. 4). A printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature (pa page 7, lines 17-21). The system further includes a printer control device 70 for retrieving the printer-independent print-quality characteristics and for associating printer-dependent imaging actions with the printer-independent print-quality characteristics (pa page 20, lines 27-29). Printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering (pa page 10, lines 23-28).

The invention of Claim 13 is directed to the system of Claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" (pa page 7, lines 21-25).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

Claims 1-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith et al. (U.S. Patent No. 5,704,021) in view of PCL 5 Color Technical Reference Manual.

VII. ARGUMENT

Appellant's invention enables the non-expert user to specify how his print job is to be output without having a detailed knowledge or understanding of how a particular printer achieves a particular output effect. Appellant's invention achieves this through the use of printer-independent print quality characteristics (or features). A printer-independent print-quality characteristic is an instruction associated with an element, such as object type, in an electronic page, which indicates printer-independent features that are preferentially emphasized when printing the element. Examples of printer-independent print quality characteristics include "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors" and "compress without loss of detail". A printer-independent print-quality characteristic is an instruction that is understandable to a user, but not to a printer. A printer-independent print-quality characteristic is a characteristic that even the most inexpert user can understand and use to achieve the type of output that he desires. When a user specifies that a particular object or image element is to have "sharp edges", the user doe not have to know how a particular printer will achieve this result. A user could care less which halftone screen is used; the user only cares that his output element has "sharp edges".

A. Claims 1-13 are patentable over 35 U.S.C. §103(a) as being unpatentable over Smith et al. (U.S. Patent No. 5,704,021) in view of PCL 5 Color Technical Reference Manual. Claims 1-13 would not have been obvious over Smith et al. (U.S. Patent No. 5,704,021) in view of PCL 5 Color Technical Reference Manual.

1. Claims 1-12

U.S. Patent 5,704,021 to Smith et al., Adaptive Color Rendering By an Inkjet Printer Based on Object Type, describes a method of using a printer system for identifying one or more different types of color objects in a document, selecting a preferred rendering option such as halftoning and/or color matching for each one of such different color object types, respectively, and then printing the document in accordance with the rendering options selected for each of such different color object types. PCL 5 Color Technical Reference Manual was cited by the Examiner for disclosing the use of a page description language within a printing system.

a. "Halftoning and/or color matching" as defined in Smith et al. are printer-dependent processes.

In Smith et al., the user who wishes to manually set the printer options for his document is presented with the ability to select automatic color or manual color. Under the manual color options shown in Fig. 5 of Smith et al. the user can select under "Print Color Control" any of "vivid color 82", "match screen 83" and "no adjustment 84" and assign his selection to text 85, graphics 86 or photo 87. Under "Halftoning", the use can select any of "cluster 91", "pattern 92" and "scatter 93" and assign his selection to text 85, graphics 86 or photo 87. The user can also vary the lightness of the entire document in box 96. Each of these selections is a printer-dependent process and has associated with it the appropriate map to achieve the specified result. Other than "match screen" and "no adjustment", each of these selections would have little meaning to an inexperienced user.

Each halftone screen (cluster, pattern or scatter) is specific to that printer. Each color control: ("vivid color", "match screen" and "no adjustment") is a specific process (color map) for that printer. When a user makes a selection from the controls shown on Fig. 5 of Smith et al., the user is selecting the particular printer-dependent print process to use.

If a user wanted to "make sharp edges" using Smith et al., first, the user could not because no such option exists in Smith et al. If a user wanted to try to simulate "make sharp edges" for a particular graphic in Smith et al., the user would have to be an expert to know which, if any, halftoning screen (cluster, pattern or scatter) would achieve that result. Similarly, if a user wanted to "reduce moiré", the user would not know/guess if "vivid color" or "match screen" or "no adjustment" would achieve that result. Smith et al. provides no such option for "reduce moiré".

b. Appellant's printer-independent print-quality characteristic does not specify any printer-specific imaging actions needed to achieve the feature.

Appellant's printer-independent print-quality characteristics, such as "make sharp edges" or to "reduce moiré" do not of themselves specify any printer-specific imaging actions needed to achieve the feature or characteristic.

In Appellant's system, when a user specifies "make sharp edges" or "reduce moiré", each of which is an example of a printer-independent print-quality characteristic comprising instructions for indicating a feature of an image element that is to be preserved during

rendering without specifying any printer-specific imaging actions needed to achieve the feature. "Make sharp edges" does not tell the printer how to achieve this. In Smith et al., selecting a cluster halftone screen does tell the printer how to do it (the cluster halftone screen is the how).

In Appellant's system, for each printer-independent print-quality characteristic, for each printer, printer-dependent imaging actions are associated with the printer-independent print-quality characteristic, which comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering. Thus "make sharp edges" is translated into the specific printer-dependent processes needed to achieve the desired result.

If a user wanted to for a particular graphic in Smith et al., the user would have to be an expert to know which, if any, halftoning screen (cluster, pattern or scatter) would achieve that result. If a user wanted the user would not know if "vivid color" or "match screen" or "no adjustment" would achieve that result. Smith et al. does not teach how to translate

c. PCL 5 Color Technical Reference Manual does not teach or suggest printer-independent print-quality characteristics.

PCL 5 Color Technical Reference Manual was cited by the Examiner for disclosing the use of a page description language within a printing system. Nothing in the PCL 5 Color Technical Reference Manual teaches or suggests a printer-independent print-quality characteristic comprising instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature.

d. Combining the printing system of Smith et al. with the page description language of PCL 5 Color Technical Reference Manual does not produce Appellant's printing system.

Combining the page description language of PCL 5 Color Technical Reference Manual with Smith et al. does not produce Appellant's system which enables a user to specify printer-independent print-quality characteristic comprising instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature.

2. Claim 13

a. "Vivid color" is not a printer-independent print-quality characteristic; "vivid color" is an "HMS type color map", which is a printer-dependent process.

The Examiner argues that Smith et al. teaches "vivid color", which in the Examiner's opinion is a printer-independent print-quality characteristic. Appellant disagrees.

According to Smith et al. at col. 8, lines 17-20: "HMS type color map" 82 (Fig. 9) -- this is a color-correction relationship used to boost the vibrancy of the hue associated with an input or given RGB value, as indicated by the designation "Vivid Color" in Figs. 6-9. HMS or Harlequin Micro Screening is a screening method that uses a Respi screen structure to allow greater highlight gradation, even at high screen rulings (see www.screen.co.jp/ga_dtp/product_e/HQ-510RIP/202-151.pdf). An HMS type color map is a specialty screen which an inexperienced user would hardly be likely to understand or comprehend. Further, Smith et al. makes use of well-known commercially available specifications, meaning Pantone Color (see col. 6, lines 48-52), which perhaps an expert user would understand, but not the inexperienced user.

Although "vivid color" sound like something that might be a printer-independent print-quality characteristic, based on a reading of Smith et al., "vivid color" clearly is not. "Vivid color" is a short hand designation for a particular color map that would be of interest to the experienced user, in the same way that specifying a scatter, cluster or pattern halftone screen would be of interest to the same experienced user.

Nothing in Smith et al. teaches or suggests, or even mentions, printer-independent, print-quality characteristics, such as "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" as claimed by Appellant, all of which have meaning to an inexperienced.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that Claims 1-13 are in condition for allowance. For all of the above reasons, Appellant respectfully requests this Honorable Board to reverse the rejections of Claims 1-13.

Respectfully submitted,

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Xerox Corporation
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Date: April 4, 2006

CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. (Previously Presented) A printing system for printing a document having at least one page described in a page description language, comprising:

a printer;

a page description language decomposer for converting the document data into at least one image object;

a user interface having a first option for associating printer-independent print-quality characteristics with a selected image object to be printed by said printer;

wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature; and

a printer control device for retrieving the printer-independent print-quality characteristics and for associating printer-dependent imaging actions with the printer-independent print-quality characteristics;

wherein printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering.

2. (Original) The printing system of claim 1, wherein each image object has an object type and the printer-independent print-quality characteristics are associated with object type.

3. (Original) The printing system of claim 2, wherein said user interface includes a dialog screen having a control for invoking said first option for associating printer-independent print-quality characteristics with a selected object type to be printed by said printer.

4. (Original) The printing system of claim 2, wherein said user interface further includes a second option for associating object descriptors with a selected object type and wherein, responsive to selection of an object descriptor, said first option associates printer-independent print-quality characteristics with said selected object descriptor.

5. (Original) The printing system of claim 4, wherein said user interface includes a dialog screen having a first control for invoking an option of automatically associating said object descriptors with said printer-independent print-quality characteristics in accordance with a set of predetermined associations and a second control for manually associating said object descriptors with said printer-independent print-quality characteristics.

6. (Original) The printing system of claim 4, further comprising a third option for defining a custom object descriptor.

7. (Original) The printing system of claim 5, further comprising a third option for saving a set of associations.

8. (Original) The printing system of claim 7, further comprising a fourth option for loading said saved set of associations.

9. (Original) The printing system of claim 5, further comprising a fifth option for selecting a default configuration of associations.

10. (Original) The printing system of claim 1, further comprising a second user interface having a control for associating printer-independent print-quality characteristics with printer-dependent imaging actions.

11. (Original) The printing system of claim 10, wherein the second user interface includes a second control for invoking an option of automatically associating printer-independent print-quality characteristics with printer-dependent imaging actions in accordance with a set of predetermined associations and a third control for manually associating printer-independent print-quality characteristics with printer-dependent imaging actions.

12. (Original) The printing system of claim 11, wherein the second user interface further includes a fourth control for defining a custom printer-independent print-

quality characteristic and for associating printer-dependent imaging actions with said custom printer-independent print-quality characteristic.

13. (Previously Presented) The system of claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail".

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE